CHAPTER II

SCOPE OF THE PRESENT WORK.

In the present investigation, the kinetics of the reaction of phenacyl bromides with pyridine, thiourea, phenyl hydrazine and other nucleophilic reagents have been studied by conductance method. In the literature there is a limited number of papers devoted to the kinetics of the reaction of aryl hydrazines with electrophilic reagents.

This kinetic investigation has been undertaken with a view to have further evidences in favour of the SN2 mechanism proposed by Rout et al.

The following aspects have been studied:

1. Determination of the specific reaction rates.
2. Determination of the Arrhenius parameters.
3. Evaluation of entropy of activation values and to see how far the data fit into Leffler's equation.
4. Calculation of the reaction constant for the reaction of substituted phenacyl bromides with pyridine, thiourea and phenyl hydrazine.
5. Application of Kirkwood function and Grunwald-Winstein equation and discussion of the relative merits on the basis of solvent structure.
6. Evaluation of 'm' value for phenacyl bromide.
7. Adducing further evidence in the light of Linnett's electronic theory for the SN2 mechanism.
8. Interpretation of the reactivity of thiourea with the help of oxi-base scale.